Appendix A
ES&H Performance Expectations
As Established in the Fermilab Contract

ARTICLE 4 - STATEMENT OF WORK (SPECIAL)

(m) Environmental Management. The Association shall support the DOE's Environmental Management (EM) Program in accordance with DOE program guidance letters and approved project baselines in areas such as:

(1) Storage, treatment, and disposal of all regulated waste streams generated on site or existing from previous operations.

(2) Construction and maintenance of facilities to provide adequate protection of the public, employees, the environment and Government-owned materials, facilities, and equipment.

(3) Implementation of waste minimization and pollution prevention initiatives.

The environmental management program shall be conducted in a manner which leads to increasing DOE, regulatory, and public confidence in cleanup and waste management efforts. Program elements will include: (A) implementing appropriate project management systems to track progress, maintain regulatory compliance, and increase cost effectiveness of work activities; (B) developing integrated plans and schedules for incorporating input from DOE, regulators, and other stakeholders in cleanup activities; © maintaining technical depth to propose and manage cleanup activities effectively; and (D) implementing appropriate cleanup technologies to reduce costs and improve performance.

(n) In recognition that the safety and health of workers and the public and the protection and restoration of the environment are fundamental responsibilities which URA assumes for work performed under this contract, URA shall:

(1) Use its best efforts to prevent serious injuries and/or fatalities and prevent worker exposures and environmental releases in excess of established limits.

(2) Establish specific environmental, safety, and health performance indicators for activities which are the basis for measuring progress toward continuous improvement.

(3) Establish clear environmental, safety, and health priorities and commitments and manage activities in proactive ways that effectively increase protection to the environment and to public and worker safety and health.

(4) Reduce ES&H risks by identifying, prioritizing, and eliminating hazards from site activities.

(5) Carry out all activities in a manner that complies with applicable human health, safety, and environmental laws and regulations; minimizes wastes; and complies with applicable regulatory requirements and the approved set of ES&H Necessary and Sufficient (N&S) standards.

(6) Conduct Integrated Safety Management and adhere to the Department's Integrated Safety Management Guiding Principles. These guiding principles are listed below:

(I) Line Management Responsibility for Safety. Line Management is responsible for the protection of the public, the workers, and the environment.

(ii) Clear Roles and Responsibilities. Clear and unambiguous lines of authority and responsibility for ensuring safety are established and maintained at all organizational levels.

(iii) Competence Commensurate with Responsibilities. Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.

(iv) Balanced Priorities. Resources are effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, the workers, and the environment is a high priority to be balanced against others whenever activities are planned and performed.

(v) Identification of Safety Standards and Requirements. Before work is performed the associated hazards are evaluated and an agreed-upon set of safety standards and requirements are established which, if properly implemented, provide adequate assurance that the public, the worker, and the environment are protected from adverse consequences.

(vi) Hazard Controls Tailored to Work Being Performed. Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards.

(vii) Operations Authorization. The conditions and requirements for operations are to be clearly established and agreed-upon.

(viii) Integrate the Safety Management System with their business processes for work planning, budgeting, authorization, execution and change control.

ARTICLE 72 - ENVIRONMENT, SAFETY AND HEALTH (SPECIAL) (DEVIATION)

(a) The Contractor shall take all reasonable precautions in the performance of the work under this contract to protect the environment, the safety and health of employees, and the safety and health of members of the public.

(b) The Contractor shall:

(1) Comply with the environmental protection, safety and health standards identified in the Necessary and Sufficient Set ("the Set") contained in Appendix J to this contract, initially identified and approved in accordance with the "Charter for the Department of Energy/Fermilab Standards Closure Process" ("Charter") dated 3/31/95, including Attachment A thereto: draft "Department of Energy Closure Process for Necessary and Sufficient Sets of Standards," dated 2/24/95).

The Set is in lieu of DOE ES&H directives which otherwise would be applicable to performance of this contract under Article 80, Laws, Regulations and DOE Directives.

(2) Identify and inform the Contracting Officer, in writing, of any inconsistencies among these standards which would affect or preclude the Contractor's ability to perform its work, and bring such inconsistencies to the attention of the Contracting Officer;

(3) Continue to maintain management systems that ensure that the agreed-upon standards are implemented.

(4) Implement internal environmental protection and safety and health performance evaluation and corrective action systems to provide Laboratory management with a continuing assessment of the adequacy and implementation of these management systems and a mechanism for assuring that *system* deficiencies are corrected. The results of such evaluations shall be made available to DOE.

© The Contractor, within 60 days after the effective date of this contract or the modification incorporating this clause, shall submit to the Contracting Officer for review and approval an Environment, Safety, and Health Management Plan, including nuclear safety, where appropriate. This management plan shall be in accordance with written guidance provided by DOE as it may be periodically revised. The Contractor shall annually submit an updated management plan to the Contracting Officer for review and approval reflecting budget decisions and contractor commitments for implementation in the budget execution year. Revisions to the management plan shall be subject to the change control process(es) established for the facility(ies) management by the Contractor.

(d) The Parties shall endeavor to keep apprised of changes to standards in the Set. Subject to paragraphs (b)(2) and (f) of this Article, changes to any standard in the Set shall be addressed as follows:

(1) If the standard is a requirement applicable by law, the changed standard shall supersede the standard in the Set and become the new standard, effective immediately.

(2) If the standard is not required by law, the Contractor may substitute the changed standard, including a modification of an internal standard, with notice to the Contracting Officer if the change does not affect the level of protection. If the change in the standard does affect the level of protection, the change requires the approval of the Contracting Officer.

(3) The Contracting Officer may direct (I) substitution of a changed standard or (ii) modification of an internal standard, unless, within 30 days from receipt of notification of the change from the Contracting Officer, the Contractor submits the matter to the Agreement Parties for a decision. If the Agreement Parties determine that the modified standard is necessary, the Contractor shall take all appropriate measures to comply with the change in the standard.

(e) The Parties shall review and revalidate the Set periodically. The Necessary and Sufficient closure process may be re-initiated by any Agreement Party upon a determination that the existing set is no longer appropriate due to changes in mission, activity, degree of hazard, performance expectation, or knowledge. Approval of any revised Set shall be by the Agreement Parties, and Appendix J will be revised accordingly (whether or not by formal modification to this contract).

(f) The Contractor and Contracting Officer shall identify and, if appropriate, agree to, any changes to contract terms and conditions, including cost and schedule, associated with a change to the Set or to a standard in the Set.

(g) The Contractor may at any time seek an exception, exemption, waiver, or variance from, or propose an equivalent alternative to, all or part of any standard in the Set, and with respect to all or part of the activities under this contract, by submitting a request to the Contracting Officer. The Contracting Officer shall be responsible for taking any necessary and appropriate action to seek relief from any standard which is required by law.

(h) In the event that the Contractor determines it is not in compliance with, or cannot comply with, any standard in the Set, the Contractor shall notify, in writing,

the Contracting Officer of such actual or anticipated noncompliance and shall propose the corrective action to be taken. After receipt of authorization from the Contracting Officer, the Contractor shall, within a reasonable time agreed upon by the Parties, take the agreed upon corrective action.

(I) The Contractor shall include in all of its subcontracts involving performance of work at the site, provisions requiring subcontractors to comply with the Contractor's environment, safety and health standards. However, such provisions in the subcontracts shall not relieve the Contractor of its obligation to assure compliance with the provisions of this clause for all aspects of the work.

(j) If at any time during the performance of the contract work, the Contractor's acts or failure to act may cause substantial harm or an imminent danger to public or worker safety or health, or to the environment, or the Contractor fails to take the corrective action approved in accordance with paragraph (g) above, the Contracting Officer may, without prejudice to any other legal or contractual rights of DOE, issue an order stopping all or any part of the work; thereafter, a start order for resumption of the work may be issued at the discretion of the Contracting Officer. The Contractor shall make no claim for an extension of time or adjustment of its fixed fee or damages by reason of, or in connection with, such work stoppage.

(k) For purposes of this Article, the term "Agreement Parties" means the President, Universities Research Association, Inc.; the Director, High Energy Physics Division, Office of Energy Research DOE; and the Fermi Group Manager, Fermi Group.

Performance Measures

Objective 1: Empowerment and training of workers and implementation of other necessary actions to prevent serious work-related injuries and fatalities and to minimize exposures to radiation.

Measure 1.1: Injury Cost Index for Fermilab employees during fiscal year. (Note: Values may differ from calendar year injury cost index values.)

Cost Index = 100(1,000,000 D + 500,000 T + 2,000 LWC + 1,000 WDL + 400 WDLR + 2,000 NFC) divided by total work-hours.
Where:
D is the number of fatalities.
T is the number of permanent transfers or terminations due to occupational illness or injury.
LWC is the number of lost workday cases.
WDL is the number of days away from work.
WDLR is the number of restricted duty days.
NFC is the number of non-fatal cases without days away from work or restricted workdays.

Measure	Outstanding	Excellent	Good	Marginal	Unsat.
1.1	< 8	8 - 20	21 - 28	29 - 35	> 35

Measure 1.2: Total effective dose equivalent (TEDE) received by personnel at Fermilab during the fiscal year measured in person-rem. This measure includes all individuals whose dose equivalent exceeds 20 mrem in any calendar quarter. Note: Doses may differ from calendar year doses.

Calculation of the metric was based on a benchmark weighted TEDE average of the most recent three years of fixed target operations and the anticipated total proton intensities to be delivered to the Switchyard for fixed target operations.

Measure	Outstanding	Excellent	Good	Marginal	Unsat.
1.2	< 14.3	14.3-21.4	21.5-23.8	23.9 - 28.7	> 28.7

Objective 2: Minimization of wastes and promotion of recycling.

Measure 2.1: This measure is a weighted average of waste volumes shipped for disposal from Fermilab, intended to capture performance in reducing the volume of three very different types of waste as follows:

a. Regulated Chemical Waste (RCW) is waste regulated by RCRA, TSCA, or Illinois Special Waste regulations. Wastes from environmental remediation are excluded from calculation in the measure. Wastes generated from major projects will be excluded

from the metric below; however, the Contractor will take proactive steps to reduce the waste volume generated from major projects and recycle where practicable.

b. Low-level Radioactive Waste (LLRW) is waste that is radioactive, according to release criteria agreed upon by DOE and Fermilab. Large items generated from major one-time projects or clean-ups are excluded from calculation in the measure.

c. Other Solid Waste (OSW) is waste disposed of through the site-wide disposal (dumpster) contract, including normal domestic solid waste and construction debris other than that generated by sub-contractors whose contracts include waste disposal.

The measure is calculated according to the following equation:

$$PM = .27a + .12b + .61c$$

where a, b, and c are percentage reductions calculated by comparing annual waste volumes for each type to the moving average of the three previous annual volumes for that waste type.

The numerical parameters were determined by considering the relative importance of risk, opportunity for improvement, and typical annual volume for each of the three waste types. Risk was presumed to include economic cost, compliance vulnerability, and environmental hazards. The coefficients are the normalized weights of the sum of the three (see table below).

	Waste Type		
	a.	b.	c.
Risk	70	25	5
Improvement	10	10	80
Volume	1	1	98
Normalization	.27	.12	.61

Measure	Outstanding	Excellent	Good	Marginal	Unsat.
2.1	>25	25 - 16	15 - 6	5 - 0	< 0

Weightings for ES&H	
Measure	Weight
1.1	60%
1.2	20
2.1	20
Total	100%